	Application No.	Applicant(s)
Notice of Allowability	10/634,633	MANBER ET AL.
	Examiner	**Art Unit**	
	Joseph E. Avellino	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment dated June 15, 2007*.

2. ☒ The allowed claim(s) is/are *31-66,68-71 and 73-76*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
    Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)
1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *herewith* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____ .

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Ron Schoenbaum on August 8, 2007.

The application has been amended as follows:

1-30: (canceled)

31. (Currently Amended) A system for handling page request errors, comprising:

an error processing server; and

a client component that runs on a user computing device in association with or as

part of a browser program and communicates with the error processing server over a

computer network;

wherein the client component is responsive to detection of the unavailability of a

target web page requested by the browser program by sending a request to the error

processing server, and the error processing server is responsive to the request by using an

address of the target web page to select an alternate object to be displayed by the browser

program in place of the requested target web page, wherein the error processing server is

capable of selecting the alternate object according to a ~~predefined~~ hierarchy of alternate

object types such that selection priority is given to a first type of alternate object over at

least a second type of alternate object, said hierarchy specified by a user of the user

computing device, and specifying selection priorities for at least the following types of

alternate objects: (a) a substitute object, which is an object previously determined to have

visible content that is substantially identical to visible content of the target web page, (b) a cached version of the target web page, and (c) a non-cached web page that is related to the target web page but is not a substitute object;

whereby the system enables an alternate object that is associated with the requested web page to be presented to [[a]] the user when the requested web page is unavailable.

32. (Previously Presented) The system of Claim 31, wherein the error processing server is capable of checking a plurality of different sources to identify an alternate object, each source corresponding to a different type of alternate object.

33. (Previously Presented) The system of Claim 31, wherein the error processing server further causes the browser program to display a message indicating the type of the alternate object selected for display.

34. (Previously Presented) The system of Claim 31, wherein the error processing server accesses a table that maps specific URLs to URLs of alternate objects, and uses the table to select at least some of the alternate objects to present to users.

35. (Previously Presented) The system of Claim 34, wherein the table maps URLs to substitute URLs.

36. (Previously Presented) The system of Claim 34, wherein the table maps URLs to related URLs.

37. (Previously Presented) The system of Claim 34, further comprising an analysis component that analyzes clickstreams of users and associated web pages to generate URL-to-URL mappings included within the table.

38. (Previously Presented) The system of Claim 31, wherein the error processing server compares a target URL supplied by a user to URLs contained within a clickstream of the user to evaluate whether the user mis-entered the target URL.

39. (Previously Presented) The system of Claim 31, wherein the error processing server additionally generates at least some of the selected alternate objects.

40. (Previously Presented) The system of Claim 31, wherein the client component requests an alternate object from the error processing server in response to detecting at least an HTTP 404 error.

41. (Previously Presented) The system of Claim 31, wherein the client component requests an alternate object from the error processing server in response to detecting at least a timeout error.

42. (Previously Presented) The system of Claim 31, wherein the client component is a browser plug-in.

43. (Currently Amended) A computer-implemented method of handling page load errors, comprising:

detecting, at a user computing device that runs a web browser, that a browser request for a target web page has resulted in an error of a defined type;

transmitting an address of the target web page from the user computing device to an error processing server;

at the error processing server, using the address of the target web page to select an alternate web page to display within the browser, wherein the error processing server selects the alternate web page using a hierarchy that specifies a preference for a first type of alternate web page over at least a second type of alternate web page, said hierarchy specified by a user of the user computing device, and reflecting relative preferences of the user for at least the following types of alternate web pages: (a) a substitute web page, which is a web page determined to have visible content that is substantially identical to visible content of the target web page, (b) a cached version of the target web page, and (c) a non-cached web page that is related to the target web page but is not a substitute web page; and

causing the web browser to display the alternate web page in place of the requested target web page.

44. (Currently Amended) The method of Claim 43, wherein the first and second types of alternate web pages are selected from the following group of alternate web page types: (a) a substitute web page, which is a web page determined to have visible content that is substantially identical to visible content of the target web page, (b) a cached version of the target web page, (c) a non-cached web page that is related to the target web page but is not a substitute web page, hierarchy additionally specifies a relative preference for the following type of alternate web

page: (d) a web page obtained from a similarly but differently spelled URL in a clickstream history associated with the user computing device.

45. (Previously Presented) The method of Claim 43, wherein the method comprises the error processing server selecting a secondary type of alternate web page to display within the browser in response to detecting that a primary type of alternate web page is not available.

46. (Previously Presented) The method of Claim 43, further comprising displaying a message within the web browser indicating which of said types of alternate web pages was selected for display.

47. (Previously Presented) The method of Claim 43, wherein the error of a defined type is an HTTP 404 error.

48. (Previously Presented) The method of Claim 43, wherein the method comprises the error processing server selecting a cached version of the target web page to display in response to determining that no substitute web page is known for the target web page.

49. (Previously Presented) The method of Claim 43, wherein the first type of alternate web page is a web page retrieved from a URL that is deemed to be a replacement URL for the target web page.

50. (Previously Presented) The method of Claim 43, wherein the step of using the address of the target web page to select an alternate web page comprises accessing a URL-to-URL mapping table that separately maps each of a plurality of target URLs to a URL of an alternate web page.

51. (Previously Presented) The method of Claim 43, wherein the step of using the address of the target web page to select an alternate web page comprises comparing a target URL supplied by a user to URLs contained in a clickstream history of the user to evaluate whether the user mis-entered the target URL.

52. (Previously Presented) The method of Claim 43, wherein the alternate web page is generated dynamically by the error processing server.

53. (Previously Presented) The method of Claim 52, wherein the dynamically-generated web page includes links to pages that are at least related to the target web page.

54. (Currently Amended) A method of handling errors associated with browser requests for displayable objects, the method comprising:

detecting, at a user computing device that runs a web browser, that a browser request for a target object at a target URL has resulted in an error of a defined type;

looking up an alternate URL based at least in-part on the target URL, said alternate URL specifying a location of an alternate object, said alternate object not being an archived version of the target object, wherein looking up the alternate URL comprises using a hierarchy of alternate object types to select the alternate URL, said hierarchy of alternate object types specifying a preference for a first alternate object type over at least a second alternate object type, wherein the hierarchy is specified by a user of the user computing device, and reflects relative preferences of the user for at least three of the following alternate object types: (a) a substitute object, which is an object determined to have visible content that is substantially identical to visible content of the target object, (b) a cached version of the target object, (c) a non-cached object that is related to the target object but is not a substitute object, (d) an object obtained from a similarly spelled URL present in a clickstream history associated with the user computing device; and

responding to the error by doing at least one of the following (1) retrieving the alternate object from the alternate URL and displaying the alternate object within the web browser, (2) presenting, on the user computing device, a link to the alternate object to allow a user to select the alternate object for display.

55. (Currently Amended) The method of Claim 54, wherein the ~~first and second alternate object types are selected from the following group of alternate object types: (a) a substitute object, which is an object determined to have visible content that is substantially identical to visible content of the target object, (b) a cached version of the target object, (c) a non-cached object that is related to the target object but is not a substitute object,~~ hierarchy reflects relative preferences of the user for all four of said alternate object types, (a), (b), (c) and (d).

56. (Previously Presented) The method of Claim 54, wherein the method comprises retrieving the alternate object, and displaying the alternate object within the web browser together with a message indicating which of said types of alternate objects is displayed.

57. (Previously Presented) The method of Claim 54, wherein the error of a defined type is an HTTP 404 error.

58. (Previously Presented) The method of Claim 54, wherein the error of a defined type is a timeout error in which a host of the target object fails to respond to the browser request within a selected time period.

59. (Previously Presented) The method of Claim 54, wherein the method comprises determining whether a substitute URL is known for the target URL, and when no substitute URL is known, using a cached version of the target object as the alternate object.

60. (Previously Presented) The method of Claim 54, wherein the method comprises giving preference to a cached version of the target object over a web page that is related to, but not a cached version of, the target object.

61. (Previously Presented) The method of Claim 54, wherein the step of looking up an alternate URL comprises accessing a URL-to-URL mapping table that separately maps each of a plurality of URLs to a URL of a corresponding alternate object.

62. (Previously Presented) The method of Claim 61, wherein the step of accessing the URL-to-URL mapping table comprises accessing a cached version of the table stored on the user computing device.

63. (Previously Presented) The method of Claim 54, wherein the step of looking up an alternate URL is performed by a remote error processing server in response to a message received from the user computing device.

64. (Currently Amended) The method of Claim 54, ~~wherein the hierarchy is based on preferences specified by a user of the user computing device~~ further comprising receiving an indication of said hierarchy from the user.

65. (Currently Amended) The method of Claim 43, wherein the hierarchy ~~is specified by a user of the user computing device, such that the alternate web page is selected according to at least one preference of the user~~ specifies a type of alternate object that is not to be selected for display by the error processing server.

66. (Currently Amended) The system of Claim 31, wherein the ~~first and second types of alternate objects are selected from the following group of alternate object types: (a) a substitute object, which is an object previously determined to have visible content that is substantially identical to visible content of the target web page, (b) a cached version of the target web page, (c) a non-cached web page that is related to the target web page but is not a substitute object,~~

hierarchy additionally specifies a selection priority for the following type of alternate object: (d) an object obtained from a similarly but differently spelled URL in a clickstream history associated with the browser program.

67. (Canceled)

68. (Currently amended) The system of Claim 31, wherein the first type of alternate object is a substitute object, ~~which is an object determined to have visible content substantially identical to visible content the target web page,~~ and the second type of object is a cached version of the target web page.

69. (Currently amended) The system of Claim 31, wherein the first type of alternate object is a substitute object, ~~which is an object determined to have visible content that is substantially identical to visible content of the target web page,~~ and the second type of alternate object is a related web page that is not a substitute object.

70. (Previously Presented) The system of Claim 31, wherein the first type of alternate object is a cached version of the target web page, and the second type of alternate object is a non-cached web page determined to be related to the target web page.

71. (Previously Presented) The system of Claim 31, wherein the error processing server is configured to check for the first type of alternate object, and to return the second type of alternate object only if the first type of alternate object is not available.

72. (Canceled)

73. (Currently amended) The system of Claim 31, wherein the system enables each user to specify the ~~predefined~~ hierarchy to control how alternate objects are selected for display.

74. (Previously Presented) The system of Claim 31, wherein the system enables an end user to specify that a particular type of alternate object should not be displayed.

75. (Previously Presented) The system of Claim 31, wherein the address of the target web page is a URL.

76. (Previously Presented) The system of Claim 31, wherein the client component is configured to generate HTTP requests.

REASONS FOR ALLOWANCE

2.   The following is an examiner's statement of reasons for allowance: The prior art

of record does not provide for, nor suggests providing for handling errors when a URL

hyperlink cannot be resolved. Instead of producing an error (such as "Error 404 File Not

Found", timeout errors, script execution errors, errors in which the web server indicates

that the requested page is no longer available, and other types of page load errors in

which a requested web page cannot be properly displayed), the system will be fed

through a gateway device which will display alternate pages related to the hyperlink

page that was unable to be found. The alternate URL is found based on a hierarchy

defined by the user which includes (a) a substitute object, which is an object determined

to have visible content that is substantially identical to visible content of the target

object, (b) a cached version of the target object, (c) a non-cached object that is related

to the target object but is not a substitute object, (d) an object obtained from a similarly

spelled URL present in a clickstream history associated with the user computing device.

The user is able to define based on preferences which type of object and in which order

the user would like to view the alternate objects. When an error is detected, the error

processing client 30 reports the error condition to the error processing server 40, and

notifies the error processing server of the target URL of the failed request. The error

processing server responds by using the target URL to identify and generate an

alternate object to display to the user. The alternate objects are: A web page from a

substitute URL. One URL is considered a substitute for another URL if web pages that

are or were previously retrieval from these URLs are substantially identical. A substitute

URL exists when a web page or site has been moved or copied to a new location. A

cached or archived version of a requested web page may be presented if it is cached

within a web page cache accessible to the error processing server. A related to, but not

substitutes for, the requested page may be presented. The related web pages come

from web sites other than the site to which the target URL corresponds. Various

algorithms exist for detecting web pages and web sites that are related to each other,

including content-based algorithms, and algorithms that analyze the clickstream

histories of users to look for web sites or pages that are commonly accessed within the

same browsing session. A page load error may be the result of a user mistyping the

URL. The target URL etered by the user may be compared to the URLs in the user's

clickstream history. If a close match is found, a web page retrieved from the closely

matching URL can be presented. A different format of a particular page. A text, PDF,

or other non-HTML version of the requested page can be retrieved from a database and

presented to the user. The server includes a URL-to-URL mapping table 50 that maps

specific URLs to URLs of alternate objects. A given target URL may be mapped by this

table to one or more substitute URLs and to one or more related URLs. Generating the

URL-to-URL mappings analyzes and compares web pages, and other web objects to

identify pairs of URLs that are substitutes or are otherwise related. The web

crawler/analyzer 52 analyzes the clickstreams of many users to identify specific URLs

or web sites that are frequently viewed in combination. These URLs are treated as

"related". Once a pair of related URLs has been identified, the analyzer compares the

visible content of the objects retrieved from these URLs and treats the URLs as substitutes as if the visible content is substantially identical.

3.   The closest prior art of record are Holzer (used in rejection in Non-Final Rejection) and Nielsen (USPN 5,892,919). These references teach resolving hyperlinks based on error messages, however do not, either singly, or in combination, teach the use of a user defined hierarchy of alternate object types. They may teach the particular types of objects used in the hierarchy, however Nielsen discloses sending a list of alternate objects to the user, and Holzer merely uses a search engine to find the closest alternate object to a particular. None of the references teach having a user define an order of these alternate object types in order to determine which object the server will display to a user in response to an error. For these reasons, in conjunction with the other limitations of the independent claims, puts this case in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800/786-9199 (IN USA OR CANADA) or 571-272-1000.

Joseph E. Avellino, Examiner
August 13, 2007